

Compactness Analysis Report

12/10/2011

Plan Name: Workspace: Senate>>GOP_2266_Senate

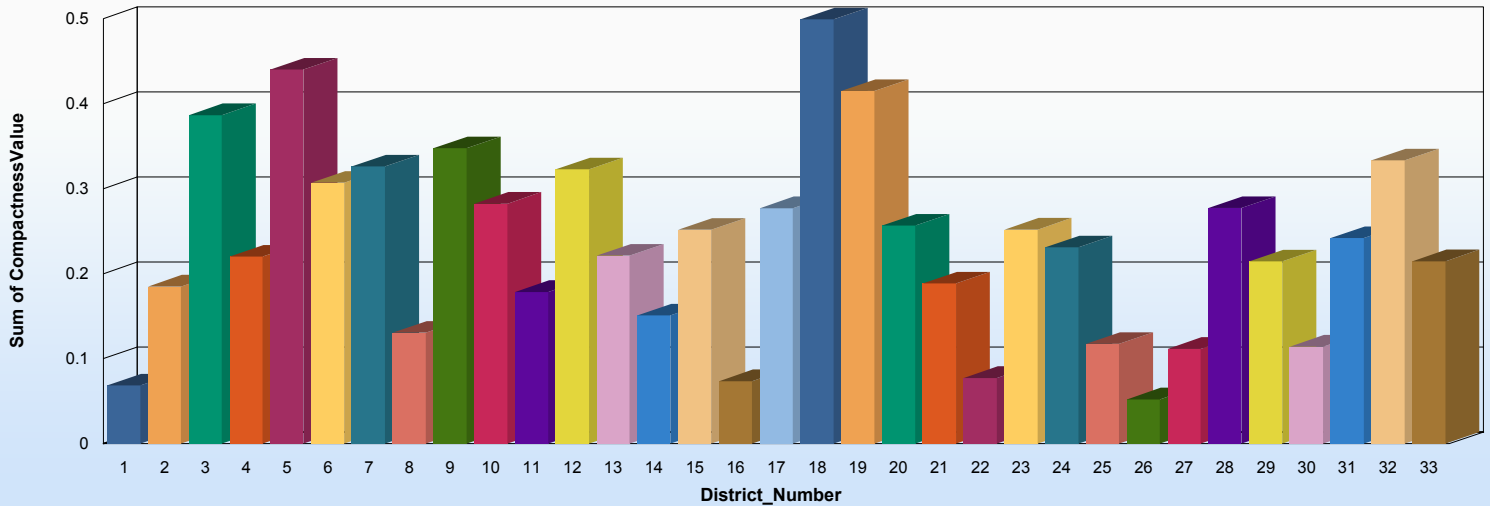
Plan Last Edited on: 12/10/2011 12:44:02 PM

Confidential

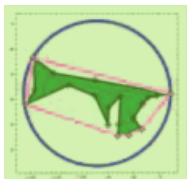
2

Compactness Measure:

Circularity Ratio - Ratio of the area of the District to the area of a circle (the most compact shape) having the same perimeter. That ratio is expressed as $M = 4\pi(\text{area}) / (\text{perimeter})^2$. For a circle, the ratio is one. This



District:	1	Compactness Value:	0.07	As Percent:	6.8%
District:	2	Compactness Value:	0.18	As Percent:	18.5%
District:	3	Compactness Value:	0.39	As Percent:	38.7%
District:	4	Compactness Value:	0.22	As Percent:	22.0%
District:	5	Compactness Value:	0.44	As Percent:	44.0%
District:	6	Compactness Value:	0.31	As Percent:	30.7%
District:	7	Compactness Value:	0.33	As Percent:	32.6%
District:	8	Compactness Value:	0.13	As Percent:	13.1%
District:	9	Compactness Value:	0.35	As Percent:	34.8%
District:	10	Compactness Value:	0.28	As Percent:	28.2%
District:	11	Compactness Value:	0.18	As Percent:	17.8%
District:	12	Compactness Value:	0.32	As Percent:	32.3%
District:	13	Compactness Value:	0.22	As Percent:	22.1%
District:	14	Compactness Value:	0.15	As Percent:	15.1%
District:	15	Compactness Value:	0.25	As Percent:	25.2%
District:	16	Compactness Value:	0.07	As Percent:	7.4%
District:	17	Compactness Value:	0.28	As Percent:	27.7%
District:	18	Compactness Value:	0.50	As Percent:	49.9%
District:	19	Compactness Value:	0.41	As Percent:	41.5%
District:	20	Compactness Value:	0.26	As Percent:	25.7%
District:	21	Compactness Value:	0.19	As Percent:	18.8%
District:	22	Compactness Value:	0.08	As Percent:	7.7%
District:	23	Compactness Value:	0.25	As Percent:	25.2%
District:	24	Compactness Value:	0.23	As Percent:	23.1%
District:	25	Compactness Value:	0.12	As Percent:	11.7%



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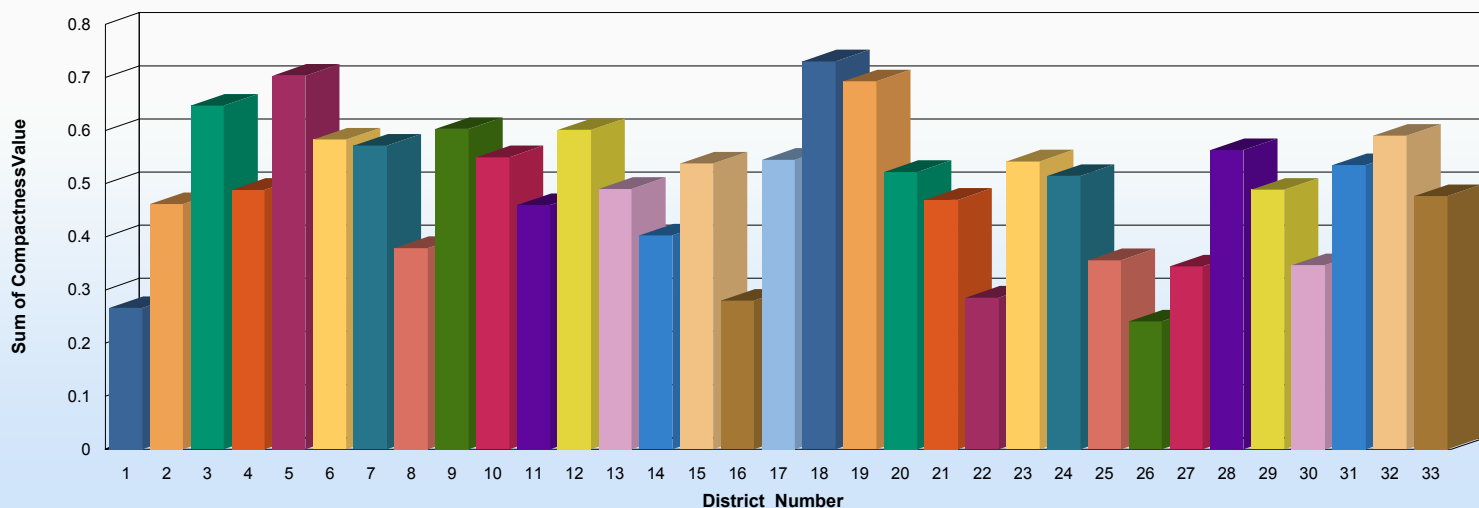
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2

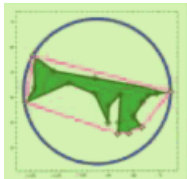
District:	26	Compactness Value:	0.05	As Percent:	5.2%
District:	27	Compactness Value:	0.11	As Percent:	11.2%
District:	28	Compactness Value:	0.28	As Percent:	27.7%
District:	29	Compactness Value:	0.21	As Percent:	21.4%
District:	30	Compactness Value:	0.11	As Percent:	11.4%
District:	31	Compactness Value:	0.24	As Percent:	24.2%
District:	32	Compactness Value:	0.33	As Percent:	33.3%
District:	33	Compactness Value:	0.21	As Percent:	21.5%

Compactness Measure:

Circumference of an equal area circle divided by the perimeter of the district



District:	1	Compactness Value:	0.27	As Percent:	26.6%
District:	2	Compactness Value:	0.46	As Percent:	46.2%
District:	3	Compactness Value:	0.65	As Percent:	64.7%
District:	4	Compactness Value:	0.49	As Percent:	48.8%
District:	5	Compactness Value:	0.70	As Percent:	70.3%
District:	6	Compactness Value:	0.58	As Percent:	58.3%
District:	7	Compactness Value:	0.57	As Percent:	57.2%
District:	8	Compactness Value:	0.38	As Percent:	37.9%
District:	9	Compactness Value:	0.60	As Percent:	60.3%
District:	10	Compactness Value:	0.55	As Percent:	55.0%
District:	11	Compactness Value:	0.46	As Percent:	46.0%
District:	12	Compactness Value:	0.60	As Percent:	60.1%
District:	13	Compactness Value:	0.49	As Percent:	49.0%
District:	14	Compactness Value:	0.40	As Percent:	40.3%
District:	15	Compactness Value:	0.54	As Percent:	53.8%
District:	16	Compactness Value:	0.28	As Percent:	28.0%
District:	17	Compactness Value:	0.54	As Percent:	54.5%
District:	18	Compactness Value:	0.73	As Percent:	73.0%



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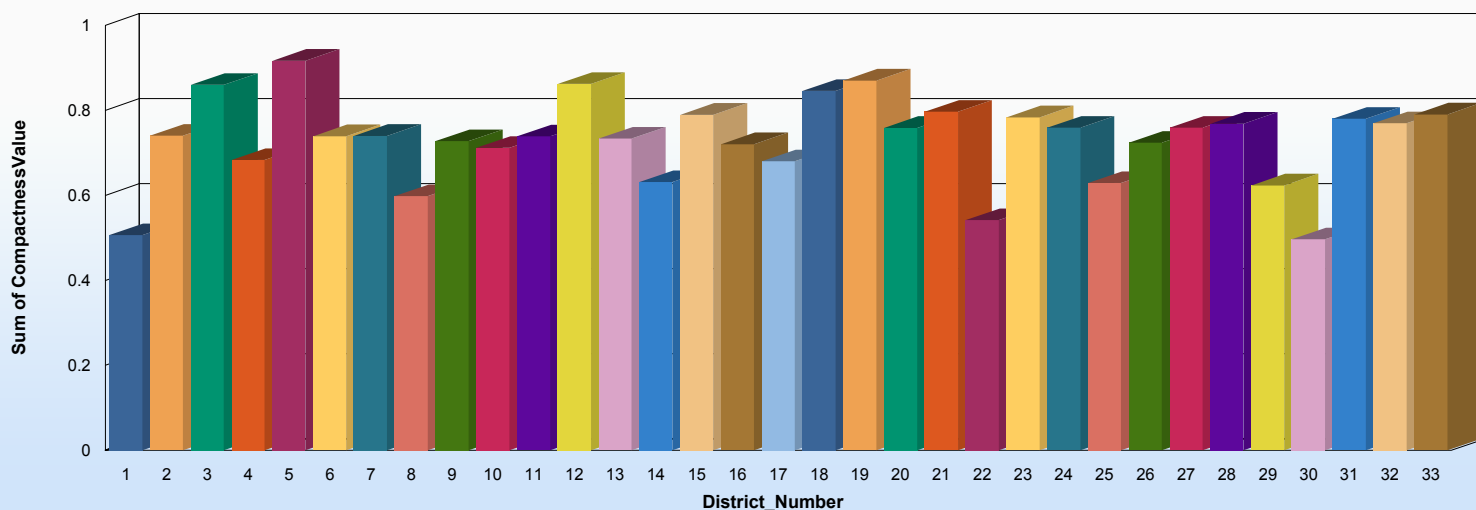
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2

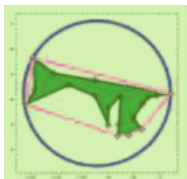
District:	19	Compactness Value:	0.69	As Percent:	69.3%
District:	20	Compactness Value:	0.52	As Percent:	52.2%
District:	21	Compactness Value:	0.47	As Percent:	47.0%
District:	22	Compactness Value:	0.29	As Percent:	28.6%
District:	23	Compactness Value:	0.54	As Percent:	54.2%
District:	24	Compactness Value:	0.51	As Percent:	51.5%
District:	25	Compactness Value:	0.36	As Percent:	35.6%
District:	26	Compactness Value:	0.24	As Percent:	24.1%
District:	27	Compactness Value:	0.34	As Percent:	34.4%
District:	28	Compactness Value:	0.56	As Percent:	56.3%
District:	29	Compactness Value:	0.49	As Percent:	48.9%
District:	30	Compactness Value:	0.35	As Percent:	34.7%
District:	31	Compactness Value:	0.53	As Percent:	53.5%
District:	32	Compactness Value:	0.59	As Percent:	59.0%
District:	33	Compactness Value:	0.48	As Percent:	47.7%

Compactness Measure:

District area divided by the area of the district's Convex Hull. This method is also known as the Schwartzberg test.



District:	1	Compactness Value:	0.51	As Percent:	50.6%
District:	2	Compactness Value:	0.74	As Percent:	74.0%
District:	3	Compactness Value:	0.86	As Percent:	86.0%
District:	4	Compactness Value:	0.68	As Percent:	68.3%
District:	5	Compactness Value:	0.92	As Percent:	91.7%
District:	6	Compactness Value:	0.74	As Percent:	73.9%
District:	7	Compactness Value:	0.74	As Percent:	74.0%
District:	8	Compactness Value:	0.60	As Percent:	59.8%
District:	9	Compactness Value:	0.73	As Percent:	72.7%
District:	10	Compactness Value:	0.71	As Percent:	71.1%
District:	11	Compactness Value:	0.74	As Percent:	73.9%



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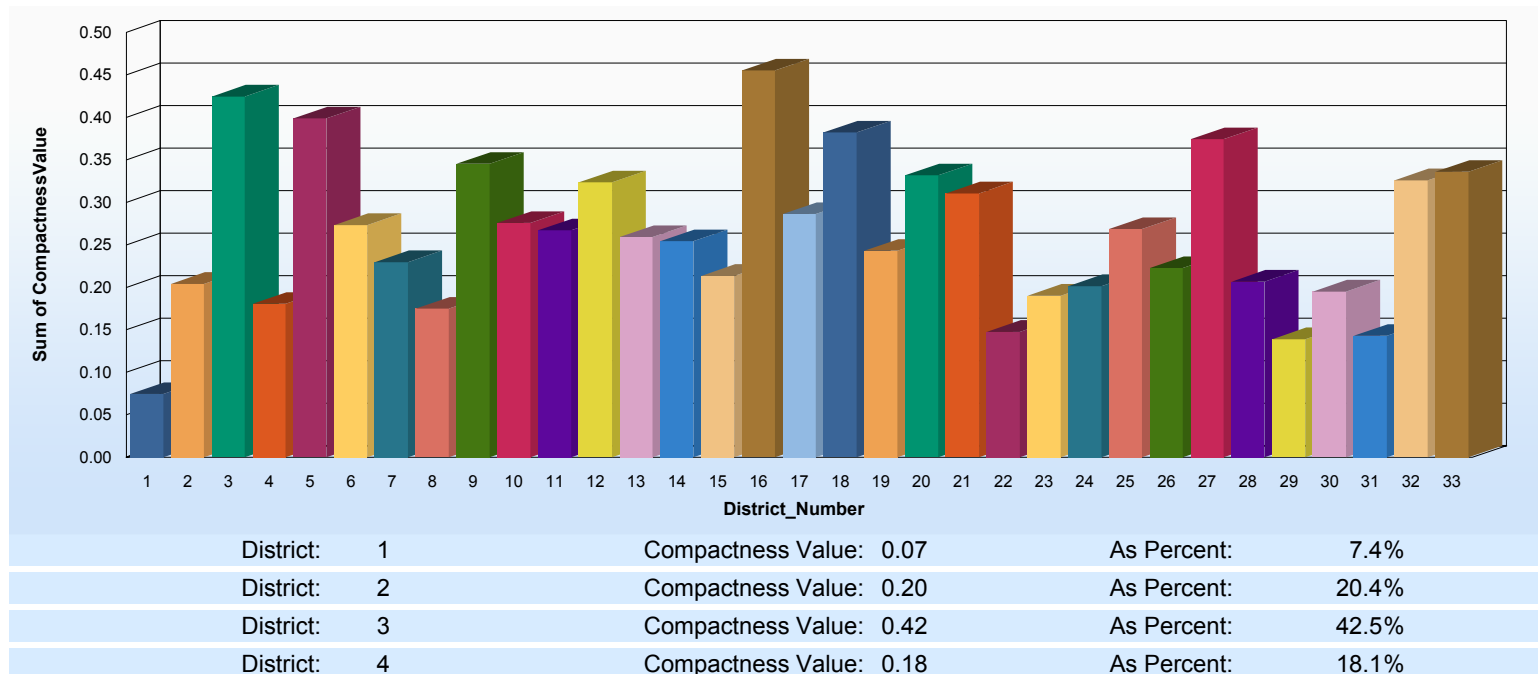
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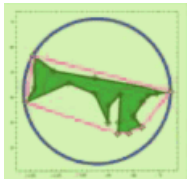
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District:	12	Compactness Value:	0.86	As Percent:	86.2%
District:	13	Compactness Value:	0.73	As Percent:	73.4%
District:	14	Compactness Value:	0.63	As Percent:	63.1%
District:	15	Compactness Value:	0.79	As Percent:	78.9%
District:	16	Compactness Value:	0.72	As Percent:	72.0%
District:	17	Compactness Value:	0.68	As Percent:	68.0%
District:	18	Compactness Value:	0.85	As Percent:	84.6%
District:	19	Compactness Value:	0.87	As Percent:	87.0%
District:	20	Compactness Value:	0.76	As Percent:	75.9%
District:	21	Compactness Value:	0.80	As Percent:	79.7%
District:	22	Compactness Value:	0.54	As Percent:	54.2%
District:	23	Compactness Value:	0.78	As Percent:	78.4%
District:	24	Compactness Value:	0.76	As Percent:	75.9%
District:	25	Compactness Value:	0.63	As Percent:	62.9%
District:	26	Compactness Value:	0.72	As Percent:	72.4%
District:	27	Compactness Value:	0.76	As Percent:	75.9%
District:	28	Compactness Value:	0.77	As Percent:	76.8%
District:	29	Compactness Value:	0.62	As Percent:	62.3%
District:	30	Compactness Value:	0.50	As Percent:	49.6%
District:	31	Compactness Value:	0.78	As Percent:	78.0%
District:	32	Compactness Value:	0.77	As Percent:	77.0%
District:	33	Compactness Value:	0.79	As Percent:	79.0%

Compactness Measure:

District area divided by the area of the minimum circle bounding the district. This method is also known as the Roeck or Ehrenberg test.





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District:	5	Compactness Value:	0.40	As Percent:	39.9%
District:	6	Compactness Value:	0.27	As Percent:	27.3%
District:	7	Compactness Value:	0.23	As Percent:	23.0%
District:	8	Compactness Value:	0.17	As Percent:	17.5%
District:	9	Compactness Value:	0.35	As Percent:	34.5%
District:	10	Compactness Value:	0.28	As Percent:	27.6%
District:	11	Compactness Value:	0.27	As Percent:	26.7%
District:	12	Compactness Value:	0.32	As Percent:	32.3%
District:	13	Compactness Value:	0.26	As Percent:	25.9%
District:	14	Compactness Value:	0.25	As Percent:	25.4%
District:	15	Compactness Value:	0.21	As Percent:	21.3%
District:	16	Compactness Value:	0.46	As Percent:	45.5%
District:	17	Compactness Value:	0.29	As Percent:	28.6%
District:	18	Compactness Value:	0.38	As Percent:	38.2%
District:	19	Compactness Value:	0.24	As Percent:	24.3%
District:	20	Compactness Value:	0.33	As Percent:	33.2%
District:	21	Compactness Value:	0.31	As Percent:	31.0%
District:	22	Compactness Value:	0.15	As Percent:	14.8%
District:	23	Compactness Value:	0.19	As Percent:	19.0%
District:	24	Compactness Value:	0.20	As Percent:	20.1%
District:	25	Compactness Value:	0.27	As Percent:	26.9%
District:	26	Compactness Value:	0.22	As Percent:	22.3%
District:	27	Compactness Value:	0.37	As Percent:	37.4%
District:	28	Compactness Value:	0.21	As Percent:	20.7%
District:	29	Compactness Value:	0.14	As Percent:	13.9%
District:	30	Compactness Value:	0.20	As Percent:	19.5%
District:	31	Compactness Value:	0.14	As Percent:	14.3%
District:	32	Compactness Value:	0.33	As Percent:	32.6%
District:	33	Compactness Value:	0.34	As Percent:	33.6%

Total Perimeter for all Districts 34,043.32 Miles